



Customers' Opinions on Incentive Based Insurance

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ABSTRACT

Incentive based insurance (often called smart insurance), where the insured can affect the premium level and receive other benefits by her behavior and choices, is currently subject to considerable interest and product design activities by insurers. To study the opinions of Finnish customers on incentive based insurances we set up a survey. The respondents replied the nonlife insurance questions rather positively. Life insurance questions mostly received slightly positive scores, but problems exist. The student sample replied to the personal life related questions significantly more positively than the senior sample. This underlines the differences between these customer segments. The real win-win situation related to incentive based insurance was questioned by many respondents indicating cognitive biases. This study finds that successful development of incentive based insurance products requires that insurers study and test carefully their potential customers' opinions. This emphasizes the role of experiments and inquiries.

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1. Introduction

What is the right level of the insurance premium? Traditionally, standard premiums are allocated to groups of insured units according to their average behaviour. For example, life insurance premium is defined according to the average mortality of the given group of insured persons. In this traditional form of premium rating membership in a certain group is a dominant factor, which is usually accompanied by other factors like age. It is customary that insured persons of the same age have to pay the same life insurance premium regardless their living habits (bad health often increases the premium or even results in declining the insurance). Intuitively it is clear that customers' good living habits decrease claims expenses. Would it be possible to take their living habits into account in premium rating, or even incentivize them to live healthier, and then reward them for doing so? In the same way the question of incentivizing a customer can be posed in non-life insurance.

In insurance premium rating incentives have been used for a long time.

They occur both in life and nonlife insurance sectors. Classic examples are the bonus/malus premium rating schemes in motor vehicle insurance. They can, indeed, promote careful driving, at least in theory. Additionally, they incentivize a customer not to report minor claims. This phenomenon is sometimes called "pseudo-deductibles"; see Kerr (2012). Lately a trend has appeared to incentivize the customer to affect by her behaviour the premium a bit more directly. Examples include the effect of driving behaviour on motor insurance and the so-called wellness or vitality concept connected to many life or health insurance products. The latter ones are often referred to as "smart life insurances", although this term may also note other features like the easiness of buying insurance.

These trends are possible because of the use of new technology to maximize the correlation of a premium and the corresponding risk, which has traditionally been one of the most important goals of insurance industry; see Dionne (2013). (E.g. in commercial insurance risk management measures decrease risk, which makes it possible to reduce the premium also.) As a concrete example, Nyce and Maroney (2011) show that more granular risk based pricing provides better incentives for homeowners regarding location and mitigation choices.

We have chosen this topic as a research object because incentive based insurance can be found at many stages: bonus/malus schemes in motor insurance have existed for decades; wellness principle, that is, taking into account physical activity and health factors in health or life premium rating, is a new phenomenon but it is in practical use and spreading around the

world; and finally, using driving behaviour as a tariff factor is still at an experimental phase. Besides, it is interesting to discuss a subject which is equally relevant in life and nonlife insurance.

It is also interesting to notice that the use of incentives is common in bancassurance environment. Buying an insurance product can be rewarded in the price of bank and other insurance products; or buying a banking product can result in a totally free insurance, at least for a certain time period. Using incentives in this way banks and insurance companies can affect their customers' cross-buying behaviour. This is an important underlying motive behind the formation of financial conglomerates; see e.g. Voutilainen (2005, 2006).

2. Literature Review

Incentive based insurance is a new phenomenon, and it has seldom been studied on an academic level. The texts found e.g. in the Internet are mostly related to product development or advertisement of existing products on the sites of insurance companies. Advertising effectiveness of life insurance is discussed by Fier and Pooser (2016). Theil (2003) finds out that the principles of judgement by representativeness and mental availability have insurance decisions and marketing implications. Market research and discussion on possible future products can also be found in the Internet.

Customers' behaviour in buying insurances and attitude towards various options is related to psychological economics and experimental economics. A fundamental textbook on psychological economics is Earl (1988). Hey (2002) and Cox et al. (2015) use experimental economics in the context of risky decision making. Richter et al. (2014) discuss behavioural insurance both from theoretical and experimental points of view. Christiansen et al. (2016) study policyholder behaviour in health insurance. Policyholder behaviour in variable annuity contracts is covered by MacKay et al. (2015).

Lambert et al. (2009) discuss the effect of fitness-related activities and medical claims. The relation between the participation in a health promotion programme and healthcare costs is studied by Patel (2010). The connection between the participation in an incentive-based health promotion program and hospital costs is discussed by Patel et al. (2010, 2011). The use of a wellness center can be a method to promote customers' health, and tickets to a wellness center can be part of a reward in incentive based insurance. Clark et al. (2011, 2013) study if the usage of a wellness center is associated with improved quality of life, stress level and health behaviours.

Among related literature in nonlife insurance one can mention Bair et al. (2012), who conclude that vehicle maintenance records predict automobile accidents, Kofman and Nini (2013) and Forsstedt (2014), who study information asymmetries in automobile insurance, and Aarbu (2015), who discusses asymmetric information in the home insurance market. One form of incentive based insurance is Pay-As-You-Drive, where insurance premiums are based directly on the amount a vehicle is driven during the policy term. Litman (2005) studies Pay-As-You-Drive pricing and insurance regulatory objectives. He concludes that it tends to support insurance regulatory objectives including increased actuarial accuracy, increased insurance affordability, reduced uninsured driving, and reduced traffic accidents. It can also help achieve other social objectives, such as reduced traffic congestion and pollution emissions.

Basic principles of insurance business are widely covered by Dionne (2013). Voutilainen (2006) discusses various aspects of financial conglomerates and more generally most preferred alliance models between banks and insurance companies. Voutilainen (2005) presents alternative alliance models and criteria for the selection between them. The problem of searching the most preferred alliance model by different decision making groups – business executives, supervisory authorities and customers – is covered by Korhonen and Voutilainen (2006), and Korhonen et al. (2006a, 2006b).

Verhoef et al. (2001) and Kumar et al. (2008) show that customers' increased cross-buying is often a goal in financial alliances. Soureli et al. (2008) and European Commission (2003) study cross-buying in retail industries.

Udoh and Safari (2016) show that banks have not done enough to close the gap of expectations from their customers regarding their service quality and e-service quality, compared to what the actual perception is for the customers.

In the field of incentive based insurances early movers can be identified among insurers of different countries. We have not found academic literature on such early movers, but McShane et al. (2012) identify early mover advantages in the relatively young market of long-term care insurance. In Finland smart life insurances have been piloted by LocalTapiola (2016).

3. Research Plan

To study the opinions of Finnish people on incentive based insurances we set up a survey consisting of general, nonlife specific and life specific questions during the autumn 2016. The survey questions are listed in Appendix 1. Although they cover both life and nonlife insurance, most of them deal with life insurance. Questions ask about agreement or disagreement with given statements (six classes with “1=definitely yes” and “6=absolutely not”).

The sample was selected and contacted with the help of the statistical service centre (TUPA) at the University of Tampere (Finland). It is an unbiased sample of Finns as for income level, bank and insurance company relation, residence location, profession etc. We call this “the basic sample”, and the number of answers there was 127.

In addition, a group of business degree students from the University of Tampere participated in the inquiry. They represent young people with high education level and their number was 69. We call this “the student sample”.

The basic sample represents the whole population of Finland while the student sample is limited to the University of Tampere. The average age is 58 in the basic sample and 24 in the student sample. In order to obtain reliable results with these relatively small samples the statistical tests were applied to dichotomized answers (“Yes”=answer 1-3 and “No”=answer 4-6), and the respondents were encouraged to give a plenty of answers to open questions.

4. Results

Basic Sample: General Attitudes

The general attitude (six classes; “1=definitely yes” and “6=absolutely not”) of the respondents towards the research questions was measured as the average answers in the basic sample, see Table 1.

Table 1
Basic Sample : General Attitude

	Question number									
	1	2	3	4	5	6	7	8	9	10
General questions	2,8	2,8	2,8	3,4	3,8	3,7				
Nonlife insurance questions	1,8	2,8	2,3	2,3						
Life insurance questions	3,0	2,5	3,0	2,3	2,8	4,5	2,8	3,6	3,8	3,2

The most favourable answers were given to statements: The bonus system in motor insurance is a good principle (N1; average 1,8); In motor insurance the driving habit should affect the premium (N3; average 2,3); In private household insurances (like e.g. home insurance) the same kind of bonus system as in motor insurance would be a good premium rating method (N4; average 2,3); Smoking/non-smoking should affect the premium of a life insurance (L4; average 2,3).

This means that the respondents like the bonus system in motor insurance, they also think that the driving habit should affect the motor insurance premium, they think that same kind of bonus system would be good in private household insurances, and they think that smoking should affect the premium of a life insurance. This opinion is strong. The vast majority of respondents (81 %) think that the bonus system in motor insurance is really good (answer 1 or 2).

The worst assessment was given to statement: Residence location should affect the premium of a life insurance (L6; average 4,5). This means that they do not accept residence location as a tariff factor of a life insurance. Again, the opinion is strong. The majority of respondents (58 %) think that residence location as a tariff factor would be really bad system (answer 5 or 6).

For all other questions, the average answers range between 2,5 and 3,8. Since the answer scale was 1,...,6 with a mean of 3,5, the answers can be considered to be relatively favourable towards the survey questions.

Implementing both life and nonlife incentive based insurance requires often the use of information technology (IT). For example, registering automobile driving behaviour or physical exercise of the insured is done with the help of IT devices. The acceptance of these kinds of insurances is related to the acceptance of IT in general. Vannoy and Palvia (2010) examine the adoption of IT in the context of social computing. As background information, Venkatesh et al. (2003, 2012) show that age and gender are significant variables in explaining IT acceptance.

Basic Sample: Background Factors

The differences between the answers of different respondent groups were statistically tested. The first comparison was made between female and male persons in the basic sample.

Our hypothesis was that men are more interested in new features than women. However, the statistical test (Table 2) shows that the only significant difference is in question G4: I am

confident that if I give my personal information to a bank, they use it appropriately. Thus, there is no evidence for our hypothesis. This is not in line with Venkatesh et al. (2003, 2012). In addition, it was observed that men chose extreme answers more than women, but we did not test this.

Table 2

AA = Average answer of a given respondent group,

The difference of the observations between groups can be:

NS	= Non-significant
NAS	= Nearly almost significant
AS	= Almost significant
S	= Significant
VS	= Very significant.
CC	contingency coefficient
X^2 (khi ²)	test variable
P	random error
Diff	statistical significance of a difference
Test	Pearson's Chi-Square test for independence

Difference between the answers of the genders in the basic sample (N=127).

Question	AA(women)	AA(men)	CC	X2	P	Diff
G1	2,6	2,9	0,143	2,6	0,107	NS
G2	2,7	2,9	0,128	2,07	0,151	NS
G3	3,0	2,6	0,007	0,01	0,936	NS
G4	3,0	3,8	0,268	9,78	0,002	S
G5	3,7	3,9	0,028	0,1	0,750	NS
G6	3,7	3,6	0,041	0,21	0,647	NS
N1	1,7	1,8	0,084	0,89	0,345	NS
N2	3,1	2,5	0,14	2,52	0,112	NS
N3	2,5	2,3	0,016	0,03	0,860	NS
N4	2,3	2,2	0,04	0,2	0,657	NS
L1	3,1	3,0	0,027	0,09	0,761	NS
L2	2,4	2,5	0,057	0,41	0,524	NS
L3	3,2	2,7	0,097	1,19	0,276	NS
L4	2,4	2,2	0,075	0,72	0,397	NS
L5	3,0	2,6	0,14	2,52	0,112	NS
L6	4,9	4,1	0,206	5,6	0,018	AS
L7	3,0	2,6	0,106	1,44	0,231	NS
L8	3,7	3,6	0,001	0	0,996	NS
L9	4,0	3,8	0,013	0,02	0,885	NS
L10	3,3	3,1	0,027	0,09	0,765	NS

Next, the answers of the respondents living in the Finnish capital area were compared with the answers of those living in other parts of Finland. Our hypothesis was that people in the capital area are more interested in new insurance features. From Table 3 we see that the difference is almost significant in question L8: An insurance company may get information about my living habits to rate the premium, and the people from outside the capital area are more positive. There are three “nearly almost significant” differences where those from outside the capital area are more positive towards new features, and all the other differences are nonsignificant. Clearly, the null hypothesis cannot be rejected, so there is no evidence for our alternative hypothesis.

Table 3

Difference between the answers of the respondents living in the capital area of Finland and the respondents from other parts of Finland (N=127)

CA = capital area, RF = rest of Finland.

Question	AA(CA)	AA(RF)	CC	X ²	P	Diff
G1	2,5	2,8	0,098	1,21	0,271	NS
G2	2,7	2,9	0,058	0,42	0,517	NS
G3	2,7	2,8	0,061	0,47	0,494	NS
G4	3,7	3,3	0,152	2,97	0,085	NAS
G5	4,2	3,6	0,107	1,45	0,229	NS
G6	3,9	3,6	0,074	0,69	0,407	NS
N1	1,5	1,8	0,142	2,55	0,110	NS
N2	3,1	2,7	0,132	2,21	0,137	NS
N3	2,4	2,3	0,032	0,12	0,724	NS
N4	2,3	2,3	0,021	0,06	0,814	NS
L1	3,4	2,9	0,06	0,44	0,506	NS
L2	2,6	2,4	0,024	0,07	0,786	NS
L3	2,9	3,0	0,017	0,04	0,849	NS
L4	2,3	2,3	0,055	0,39	0,534	NS
L5	2,8	2,8	0,067	0,56	0,455	NS
L6	5,0	4,3	0,15	2,88	0,090	NAS
L7	3,3	2,7	0,15	2,86	0,091	NAS
L8	4,2	3,5	0,204	5,43	0,020	AS
L9	4,1	3,8	0,042	0,22	0,637	NS
L10	3,5	3,1	0,088	0,98	0,322	NS

In the next comparison, the basic sample was divided into four salary classes with boundaries 1.000, 2.500, and 5.000 euros. Our hypothesis was that people with good salary are more interested in new insurance features. In the general questions, all the differences (Table 4)

were non-significant. In the nonlife question N2 (the driven kilometres should affect the motor insurance premium) the difference is significant, and the second lowest salary class is clearly most positive. In question L10 (I would be interested in life insurance which would give me benefits according to my physical activity and living habits) the difference was almost significant, and the most positive answers came from the lowest and the highest salary class. Additionally, there was one nearly almost significant difference, and all the other differences were non-significant. Therefore, we failed to find support for our hypothesis.

Table 4

Difference between the answers of the respondents in various salary classes (N=127)

Salary level €/month:

Class 1 Below 1.000

Class 2 Between 1.000 and 2.499

Class 3 Between 2.500 and 4.999

Class 4 Over 5.000

Question	AA(1)	AA(2)	AA(3)	AA(4)	CC	X ²	P	Diff
G1	2,9	2,6	2,7	3,0	0,111	1,53	0,676	NS
G2	2,8	2,6	2,8	3,5	0,173	3,8	0,284	NS
G3	2,9	2,7	2,7	2,8	0,067	0,55	0,908	NS
G4	3,1	3,8	3,1	2,5	0,168	3,59	0,310	NS
G5	3,5	3,9	3,9	3,5	0,117	1,72	0,633	NS
G6	3,7	3,8	3,6	3,3	0,099	1,22	0,748	NS
N1	2,1	1,5	1,9	2,0	0,229	6,74	0,081	NAS
N2	3,6	2,3	3,1	3,4	0,33	15,16	0,002	S
N3	2,9	2,0	2,6	2,8	0,22	6,19	0,103	NS
N4	2,7	1,9	2,6	2,4	0,159	3,21	0,361	NS
L1	2,7	2,8	3,2	3,5	0,14	2,45	0,485	NS
L2	2,7	2,5	2,3	2,7	0,105	1,38	0,711	NS
L3	3,0	3,1	2,7	3,5	0,158	3,11	0,375	NS
L4	2,2	2,3	2,2	2,4	0,089	1	0,802	NS
L5	2,9	2,9	2,6	2,7	0,15	2,87	0,413	NS
L6	3,9	4,3	4,8	5,0	0,194	4,84	0,184	NS
L7	2,5	2,8	2,9	2,8	0,087	0,94	0,817	NS
L8	3,6	3,7	3,5	3,5	0,032	0,13	0,988	NS
L9	4,1	4,1	3,6	3,4	0,187	4,58	0,205	NS
L10	2,2	3,4	3,6	2,4	0,269	9,64	0,022	AS

Aged Sample and Student Sample: Comparison

The average answers of those members of the basic sample who are at least 50 years old (N=90) and the student sample (N=69, average age 24) were compared, see Table 5. The hypothesis here is that young and more educated people are in favour of new features more than the older.

In the general questions this is true: In almost all questions there is at least some significance in the difference between the sample answers, and in questions G4: A bank uses appropriately my personal information, G5: An insurance company uses appropriately a customer's information, and G6: I am willing to deliver actively personal information to get benefits from bank and insurance services, the difference was very significant.

In nonlife questions the differences were nonsignificant, but in life questions the differences of the average answers are again in most cases almost significant or very significant. The differences were very significant in questions L8 (an Insurance company may get information about my living habits to rate the premium), L9 (the insurance company may get my health related information to rate the premium, and L10 (I would be interested in life insurance which would give me benefits according to my physical activity and living habits). The students were more interested in new insurance features in most questions. Thus, the data supported our hypothesis in most cases.

The above differences are in line with the observation that age is a significant factor in explaining IT acceptance (Venkatesh et al., 2012). Here an additional factor is education.

Table 5

Difference between the answers of the subgroup of at least 50 years old respondents of the basic sample (N=90) and the student group (N=68), Pearson's Chi-Square test for independence.

Question	AA(at l. 50)	AA(stud.)	CC	X ²	P	Diff
G1	2,7	2,7	0,15	3,65	0,056	NAS
G2	2,8	2,7	0,159	4,08	0,044	AS
G3	2,8	2,4	0,128	2,65	0,104	NS
G4	3,7	2,5	0,32	18,18	0	VS
G5	3,8	2,6	0,278	14,31	0	VS
G6	3,8	2,5	0,333	19,65	0	VS
N1	1,7	2,0	0,034	0,18	0,669	NS
N2	2,8	2,6	0,035	0,2	0,658	NS
N3	2,3	2,3	0,065	0,67	0,414	NS
N4	2,2	2,6	0,073	0,86	0,355	NS
L1	3,1	3,2	0,027	0,11	0,737	NS
L2	2,5	1,9	0,155	3,92	0,048	AS
L3	3,1	2,2	0,16	4,13	0,042	AS
L4	2,4	1,9	0,072	0,83	0,361	NS
L5	2,8	2,3	0,131	2,76	0,097	NAS
L6	4,5	3,9	0,161	4,26	0,039	AS
L7	2,7	2,2	0,194	6,19	0,013	AS
L8	3,7	2,4	0,269	12,43	0	VS
L9	3,9	2,4	0,31	16,87	0	VS
L10	3,3	2,2	0,298	15,45	0	VS

Basic Sample: Free Answers

One can observe from the respondents' free answers (Appendix 2) that the majority of the comments were critical or even negative although the answer scores were on the average relatively positive towards incentive based insurances. The explanation is probably the empirical fact that respondents giving positive answers often give fewer comments than those giving negative answers. Here the respondents suspected in many free answers that the insurance company would be the only winner in the new type of insurances.

It is important to notice that an insurance company does not control an insured customer just for its own benefit, but careful driving behaviour saves both the car and the chauffeur's nerves, not to talk about improved traffic safety, and health incentives of life or health insurance promote a better life. We can talk about a real Win-Win situation. Thus, questioning the Win-Win-situation indicates cognitive biases among respondents. This emphasises the role of

experiments in analysing insurance systems and products as described e.g. in Richter et al. (2014). Another important aspect is the reduction of complexity in a customer's decision process, see e.g. Theil (2003).

One can also observe from the free answers that the respondents value exercise and sports related discounts as bonuses of smart or incentive type of insurance policies (gyms, swimming halls, badminton, etc.). Certain insurance companies also offer more broadly defined wellness bonuses like cinema tickets, health food and drink tickets and so on. These kinds of bonuses did not appear in the spontaneous answers of this study.

Among the negative comments may be mentioned the following: Data security problems were raised; general confidence for the suggested system was much lower among older respondents; the arrangement is too complicated to function properly; there are practical problems in verifying the improved health status of a customer; people are put into uneven positions (unfairly); health markers do not always give a right picture of a person's health status.

One respondent raised a philosophical question "An insurance company has to be an enterprise and able to take risks". An insurance company really exists to take its clients' risks. Apparently the respondent criticizes insurance companies' trend to evaluate individual customers' risks as exactly as possible to manage the individual risk and set a right premium. In return of complying with the terms and conditions and lowering the risk for the insurer the customer obtains a premium discount.

Incentive based insurances are a way to individualize underwriting and premium rating. This can be considered as a countermeasure to regulation (e.g. the EU gender-neutral rule), which tends to make insurance business less individual, i.e. more collective.

5. Concluding Remarks

To study opinions of Finnish customers on incentive based insurances we set up an inquiry consisting of general, nonlife specific and life specific questions during the autumn 2016. Statistical tests were carried out to find out if there were significant differences between the answers of different samples.

As a summary, the next conclusions can be drawn from the inquiry results:

- The respondents replied the nonlife insurance questions quite positively. A vast majority of respondents think that the bonus system in motor insurance is really good.
- Life insurance questions mostly received slightly positive scores, but the majority of the free answers were negative. The majority of respondents think that residence location as a tariff factor is a really bad system.
- Cross-selling related questions received slightly positive scores.
- There was hardly any difference between the answers of different genders, different residence locations or different income levels.
- The sample of young with high education (student sample) replied to the following questions very significantly more positively than the senior sample (at least 50 years old):
 - Nonlife and life: I am confident that if I give my personal information to a bank, they will use it appropriately.
 - Nonlife and life: I am confident that if I give my personal information regarding e.g. my health, driving habits or living habits to an insurance company, they will use it appropriately.
 - Nonlife and life: Considering bank and insurance services overall, I would be willing to give my personal information to obtain benefits from bank and insurance services.
 - Life: An insurance company may get information about my living habits to rate the premium.
 - Life: An insurance company may get my health related information to rate the premium.
 - Life: I would be interested in life insurance which would give me benefits according to my physical activity and living habits.

This underlines the differences between these customer segments when it comes to delivery of personal data.

Many respondents were interested in discounted or free vouchers for exercise and sports related activities and not only premium discounts. Unexpectedly, the real Win-Win situation related to incentive based insurance was questioned indicating cognitive biases.

This study finds that successful development of incentive based insurance products requires that insurers study and test carefully their potential customers' opinions. This emphasises the role of experiments and inquiries in insurance product development work. Another important aspect is the reduction of complexity in a customer's decision process.

More and more insurance companies are designing or piloting incentive based insurances described in this paper. Therefore, it would be interesting to repeat a study on customers' opinions on these kinds of products within a couple of years. Also regulatory aspects would be an important open issue.

Appendices

Appendix 1: Survey Questions

Background questions

Age in full years

Gender

Place of residence

Salary level €/month:

- Below 1.000
- Between 1.000 and 2.499
- Between 2.500 and 4.999
- Over 5.000

The opinion on the following statements is given as 1,2,...,6, where 1=definitely yes and 6=absolutely not.

General Questions

- G1 Rewarding the use of banking services as decreased insurance premiums is a good principle.
- G2 Rewarding the use of insurances as lower costs of banking services is a good principle
- G3 Claim probability should affect insurance premium level and the claim payment
- G4 I am confident that if I give my personal information to a bank, they use it appropriately
- G5 I am confident that if I give my personal information regarding e.g. my health, driving habits or living habits to an insurance company, they use it appropriately.
- G6 Considering bank and insurance services overall, I would be willing to give my personal information to reach benefits from bank and insurance services.

Nonlife Insurance Related Questions

- N1 The bonus system in motor insurance (rewarding a small number of claims in premiums of later years) is a good principle.
- N2 In motor insurance the driven kilometres should affect the premium.
- N3 In motor insurance the driving habit should affect the premium.
- N4 In private household insurances (like e.g. home insurance) the same kind of bonus system as in motor insurance would be a good premium rating method.

Life Insurance Related Questions

- L1 In health insurance the same kind of bonus system as in motor insurance would be a good premium rating method.
- L2 I approve health declarations when buying a life insurance
- L3 Age should affect the premium of a life insurance.
- L4 Smoking/non-smoking should affect the premium of a life insurance.
- L5 My health condition should affect the premium of a life insurance.
- L6 Residence location should affect the premium of a life insurance.
- L7 My living habits promoting my health could affect the premium of a life insurance.
- L8 It is acceptable that an insurance company gets information about my living habits to rate the premium.
- L9 It is acceptable that an insurance company gets my health related information like blood pressure, cholesterol level or BMI to rate the premium.
- L10 I would be interested in life insurance which would give me benefits according to my physical activity and living habits.
- L11 If you answered 1, 2 or 3 to question L10, what form of reward would interest you (what would motivate you to use this service): premium discount, discount from services related to physical exercise or wellness, earning wider insurance coverage, possibility to monitor your own activity, living habit and health, other, what?
- L12 If you answered 4,5 or 6 to question L10, what factors would possibly prevent you from using this service: concern about whether right conclusions are made based on this information, concern about data security when giving health information, concern about not getting any benefits by giving out my health information, concern about conditions for rewarding being too complex, difficulty in monitoring health information, concern about whether living habits and health are in sufficient level to achieving benefits, other, what?

Appendix 2: Examples of Free Answers

In question L11 respondents who were interested in “smart” life insurances were asked to tell what form of reward would interest them. Here are some of the answers:

Premium Discount

“If wealth status is better, one can get a discount, but worse health should not be penalized.”

“ 20-30 % discount from premiums ”

“Our insurances have been bundled and we get mighty bonuses already now. I do not know if I could still raise them.”

“Non-smoking discount -5%, no drinking -5%, normal BMI -5%”

“Discounts by changing living habits would increase interest in healthy life.”

“Discount factors weight, stopping smoking, amount of exercise and cholesterol”

“Condition in relation to age would be noted in premiums.”

“This would incentivize health maintenance”

“Because I have lived peaceful life without partying, smoking and risk factors like dangerous hobbies, I would like to have discounts. My relatives have also lived very long lives, which should be taken account as well.”

“A condition card would be an evidence of physical activity in everyday life.”

“A stepwise monitoring by heart rate”

“After health examinations the premium would be adjusted (decrease/increase)”

“Premium discount could be 10-30 % considering living habits and activity.”

Discount from Services

“Discount from a gym card? I do not know, I use “services” to promote my welfare and condition which can be even free (nature, dancing).”

“Discount to gym would be good.”

“Bonus could also be in the form of an exercise card (Smartum et al.)”

“I do not care, because I spend my spare free time anyway in the nature where I get both physical and spiritual well-being.”

“Discounts from welfare and condition checks”

“Free condition course, if one’s condition improves, no discounts is needed!”

“Incentivizes exercise and healthy life habits.”

“Difficult to maintain fairness between residence areas”

Wider Insurance Coverage

“travel insurance as a side cover”

“Possibility for insurance cover for an elderly person”

Possibility to Monitor One’s Own Activity

“Don’t the companies offer this service already now?”

“I am not interested in the continuous monitoring of my own health.”

“A very good idea (several comments).”

“Modern monitors and cloud services make it possible to assess and follow the level of the customer.”

“All the tests to be paid by the insurance company.”

“Possibility to follow one’s condition is a good benefit.”

“I think that everybody can “monitor” one’s condition, health and living habits by what he/she eats, how spends his/her leisure time and what does to maintain his/her condition.”

Other Possible Bonuses?

“Free tickets to swimming halls and gyms.”

“Badminton tickets, personal trainer sessions”

“Anything to improve condition”

In question L12 respondents who were not so interested in “smart” life insurances were asked to tell what would possibly prevent them from using this service. Here are some of the answers:

Concern About Wrong Conclusions

“Relatively small choices in living habits may get too high significance”

“Does the customer submit the information correctly?”

“Misuse of the system”

“The insurance company would dictate the interpretations of the data”

“Whichever data can be transformed to correspond one’s purposes”

“Medicine is not always objective: cholesterol levels can differ even if there were no problems.”

“Insurance companies have only one target: to increase their own profits, so they cannot possibly make objective decisions in this respect but use every means to increase premiums.”

“Here again doctors of an insurance company draw conclusions without seeing a person”

“Life is never totally predictable - a smoker can have good condition and a very healthy person may all of a sudden die without any warning. In life there are no guarantees. Therefore, drawing always right conclusions is impossible.”

Concern About Data Security

“Systems are often down and hacking is increasing”

“Data security failures probable (several comments)”

“A critical issue, but, on the other hand, too much security prevents many good developments of the system”

Concern About Not Getting any Benefits by Giving out Health Information

“The insurance company is the sole beneficiary of the arrangement”

“The benefit could be offset by the costs of data gathering, and it would not be seen in the respondent’s premiums”

“Insurance companies try to increase their profits by any means. I do not believe that lower premium would be charged”

“There is no sense in gathering useless information”

Concern About Conditions for Rewarding Being too Complex

“There is always some loophole to deny a claim”

“Both bank and insurance conditions are too complex already today”

“Customers would be put into unequal position”

“Depends on how well they are designed. Cf. Nobel prize for contract theory.”

Difficulty in Monitoring Health Information

“Who would do that as it is nowadays impossible to get to a doctor even if you wanted?”

“Taking a blood sample to an insurance company is by no means a nice idea – in dispute situations surely the companies would win.”

“What obligations does the monitoring bring to an insured? How is my health followed and how often?”

“Modern techniques and medical centres offer good possibilities”

“Fair health monitoring is difficult and complicated”

Concern About Whether Living Habits and Health are in Sufficient Level to Achieve Benefits

“No worries” (several comments)

“A person’s living habits and health change all the time and it would be difficult to control how he/she would keep the agreed living habits.

“Only top athletes could even in theory get small premium discounts”

“This could have a positive effect (“living habits renovation”) or negative (a customer changes companies or gives up the insurance)”

Other Possible Difficulties

“Driving behaviour is up to a person him/herself while a person cannot affect growing old and getting ill. Mandatory screening of people’s genome and its effects to future people’s lives is a horror scenario.”

“People are classified into unequal positions”

“Can a cured disease be an obstacle for getting an insurance? Is the premium going to be raised?”

“Too personal matters should not be disclosed”

“Sporty but dangerous hobbies could be treated more favourably than obesity, smoking, etc. In spite of healthy habits one’s health can deteriorate. Premium rating factors should not include health markers like blood pressure, BMI, etc.”

“If you change insurance companies often, they all have your health information. This is not good!”

“The definition of healthy living habits? If insurance company’s and my definitions coincided, incentive based insurance would be OK for me. If the insurance defines healthy living habits according to the official practise, our views on health and good living habits differ totally. Healthy diet is also a thing I would probably sharply disagree with the insurance company. I would pay more for my insurance even if I live healthy and I am never ill, because my view differs from the official one. This fact destroys incentives for me.”

“For a young woman pressures on looks and living habits are already otherwise terrible. It would feel shocking if some kilos of overweight or amount of exercise would be penalized. Many cannot do anything about their health. This kind of system would set people into unequal positions.”

“Right living habits are not a guarantee for health status!”

“I am afraid that a big proportion of people are directed outside fairly priced insurances”

“Information will later be sold further to a third party or it will later be used in a connection which an insured person could not think about when buying a policy.”

“As far as I know, my age is a show stopper for life insurances. At least the previous ones have expired. I missed the train!”

“When buying an insurance policy a person’s activity may have been good. In life, however, one faces challenges/adversity and taking care of one’s condition gets less attention. Consequently, the insurance company may consider that the customer has not fulfilled the insurance terms regarding activity. Insurance companies are not especially well trusted in these kinds of matters.”

“An insurance company has to be an enterprise and able to take risks”

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